Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0303138N: Consolidated Afloat Network Ent Services(CANES)						

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	42.417	24.855	16.749	-	16.749	15.852	15.015	14.117	14.347	Continuing	Continuing
0725: Communication Automation	-	-	1.334	-	1.334	1.005	1.021	1.001	1.018	Continuing	Continuing
9999: Congressional Adds	-	12.000	-	-	-	-	-	-	-	0.000	12.000
9C87: CANES Integration	42.417	12.855	15.415	-	15.415	14.847	13.994	13.116	13.329	284.653	410.626

Note

CANES is a Department of the Navy (DoN) efficiency initiative. CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ends in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.
Project 0725 Communication Automation Automated Digital Network System (ADNS) funding was realigned from PE 0204163N to CANES PE 0303138N FY13 and out.
Project 9999 Congressional Adds realigned from CANES FY12 OPN LI 2915.

A. Mission Description and Budget Item Justification

Consolidated Afloat Networks & Enterprise Services (CANES) is a DoN Efficiency Initiative and is the Navy's only Program of Record (POR) to replace existing afloat networks and provide the necessary infrastructure for applications, systems, and services to operate in the tactical domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, including Integrated Shipboard Network Systems (ISNS), Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M), Sensitive Compartmented Information (SCI) Networks, and Submarine Local Area Network (SubLAN). These legacy afloat network designs are End of Life starting in FY 2012 and CANES will replace these existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) computing and storage capabilities will reside. CANES will provide complete infrastructure, inclusive of hardware, software, processing, storage and end user devices for Unclassified, Coalition, Secret and SCI for all basic network services (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and aircraft. In addition, approximately 36 hosted applications and systems inclusive of Command and Control, Intelligence, Surveillance and Reconnaissance, Information Operations, Logistics and Business domains require the CANES infrastructure to operate in the tactical environment. Integrating these applications and systems is accomplished through Application Integration (AI), the engineering process used to evaluate and validate compatibility between the CANES IaaS / PaaS and the Navy-validated applications, systems and services that will utilize the CANES infrastructure and services. Specific programs, such as Distributed Common Ground System - Navy (DCGS-N), Global Command and Control System - Maritime (GCCS-M), Naval Tactical Command Support System (NTCSS), and Undersea Warfare Decision Support System (USW-DSS), are dependent on the CANES Common Computing Environment (CCE) to field, host, and sustain their capability because they no longer provide their own hardware. CANES requires that ADNS field prior to or concurrently with CANES due to architectural reliance between the two programs.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*

CANES will field on a rolling four year hardware baseline and a two year software baseline. CANES is based on the overarching concept of reducing the number of afloat networks and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics, and training efforts into a unified support structure.

In FY 2013, CANES RDT&E investment will continue to fund platform set 3 and 4 baseline development. Perform Developmental Testing (DT) and Initial Operational Test & Evaluation (IOT&E) on unit level platform in support of Full Deployment Decision (FDD) in 4QFY13. Continue testing events at Enterprise Engineering and Certification (E2C) lab on platform sets 2,3,4. Begin DT on force level baseline in support of Follow On Test and Evaluation (FOT&E) planned to occur in FY 2014. Continue hosted system integration testing and Application Integration (AI).

The Communications Automation Program - This project is a continuing program that provides for automation and communications upgrades for fleet tactical users. It includes Automated Digital Network System (ADNS) and High Frequency Internet Protocol/Sub Network Relay.

ADNS is the method by which tactical Navy units transfer Internet Protocol (IP) data to Navy and Department of Defense communities on the Global Information Grid (GIG). ADNS serves as a gateway to enable joint and coalition interoperability for these tactical assets and ensures GIG connectivity. ADNS allows unclassified, secret, top secret traffic, and various joint, allied, and coalition services to reconnect to the Defense Information Systems Network ashore via radio paths and pier connectivity.

FY13 funds will be used for ADNS interface design development, integration for network application and Radio Frequency (RF) paths and to complete Operational Testing on ADNS INC III Submarines.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	63.563	12.906	15.663	-	15.663
Current President's Budget	42.417	24.855	16.749	-	16.749
Total Adjustments	-21.146	11.949	1.086	-	1.086
• Congressional General Reductions	-	-0.051			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	12.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.442	-			
• SBIR/STTR Transfer	-1.403	-			
• Program Adjustments	-	-	1.094	-	1.094
• Rate/Misc Adjustments	-	-	-0.008	-	-0.008
• Congressional General Reductions Adjustments	-0.301	-	-	-	-
• Congressional Directed Reductions Adjustments	-19.000	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2011	FY 2012
Project: 9999: *Congressional Adds*		
Congressional Add: *CANES (Cong)*	-	12.000
Congressional Add Subtotals for Project: 9999	-	12.000
Congressional Add Totals for all Projects	-	12.000

Change Summary Explanation

Technical: Platform sets 1,2,3,4 added to further define phases of CANES system development efforts. Each platform set consists of different ship class design baselines. Operational Assessment (OA) replaced Operational Testing (OT). Developmental Test Assists (DTA) replaced Developmental Test (DT) events associated with Technical Insertion (TI). DTA scope is less than that of a full DT event since the test is only focused on the changes made to the design.

Funding:
CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ends in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*

Communication Automation Automated Digital Network System (ADNS) Project 0725 was realigned from Program Element 0204163N to 0303138N in FY13 and out due to architectural reliance with CANES.

Schedule:
CANES Engineering and Manufacturing Development (EMD) contract completion, Limited Deployment (LD) contract option, Operational Assessment(OA) has been rephased. Follow-On Test and Evaluation (FOT&E) for Platform Set 2, Developmental Testing events added for Initial Operational Test and Evaluation (IOT&E), FOT&E and TI.

ADNS Inc II Full Operational Capability (FOC) and ADNS Inc III Submarine Fielding Decision are planned for FY13.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012	

APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*	PROJECT 0725: *Communication Automation*

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0725: *Communication Automation*	-	-	1.334	-	1.334	1.005	1.021	1.001	1.018	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project unit is a continuing program that provides for automation and communications upgrades for Fleet tactical users.

Automated Digital Network System (ADNS) provides routing, switching, baseband, configuration and monitoring capabilities for interconnecting naval, coalition and joint enclaves worldwide. ADNS utilizes off the shelf equipment and network protocols as specified by the Joint Technical Architecture. ADNS Increment (INC) II provides capabilities of load balancing, radio frequency restoral, initial quality of service to include application prioritization, initial traffic management, and enhancements designed to maximize use of available bandwidth for surface, shore, and airborne platforms. ADNS INC III converges all Navy tactical voice, video, and data requirements into a converged IP data stream. ADNS INC III interoperates with higher bandwidth satellites, supporting up to 25 mega bytes per second (Mbps) of throughput on unit level ships and up to 50 Mbps on force level ships. INC III architecture also incorporates an IPv4/IPv6 dual stack and a cipher text security architecture to align to joint and coalition networks, in addition to greater security utilizing the High Assurance Internet Protocol (IP) Encryptor (HAIPE) devices. ADNS INC III serves as the Navy tactical interface for IP Networking with Joint Tactical Radio System, and Advanced Extremely High Frequency to include Consolidated Afloat Networks Enterprise Services (CANES). ADNS will investigate emerging technologies to integrate with additional Department of Defense C4I Programs to improve interstrike group networking and extend the network to the tactical edge.

FY13 funds will be used for ADNS interface design development, integration for network application and Radio Frequency (RF) paths and to complete Operational Testing on ADNS INC III Submarines.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Automated Digital Network System	-	-	1.334
Articles:			0
FY 2013 Plans: Continue the development of updated system and subsystem interface designs for integration with new SATCOM and RF paths as they emerge. Test and integrate the evolving network applications as they are incorporated into the C4I architecture; actions will include examining and testing interfaces with Enterprise Network Management System, transition to IPv6, and final phase out of serial links. Continue the evaluation of technology insertion capabilities to the ADNS system to enhance network mobility for aircraft in a Joint Aerial Layer Network (JALN) environment. Integration of Super High Frequency (SHF) Split IP. Interface testing for emerging Line of Sight (LOS) links. Complete Video and Voice Over Secure Internet Protocol (VVoSIP) integration into the ADNS boundary. Complete Operational Testing on ADNS INC III Submarines.			
Accomplishments/Planned Programs Subtotals	-	-	1.334

Exhibit R-2A, **RDT&E Project Justification:** PB 2013 Navy		**DATE:** February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*	**PROJECT** 0725: *Communication Automation*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN/2915: *Communication Automation*	0.000	0.000	57.770	0.000	57.770	44.470	46.134	40.262	42.492	0.000	231.128
• OPN/3050: *Ship Comm Auto*	33.692	53.614	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	87.306

D. Acquisition Strategy

Automated Digital Network System (ADNS): Evolutionary acquisition approach with overlapping development and implementation phases for defined Increment I, II, and III baselines. Increment I , II , and III will use competitively awarded contracts to implement changes consistent with acquisition initiatives. ADNS leverages Commercial Off The Shelf
(COTS) products while capitalizing on acquisition reform initiatives to achieve material savings in the logistics, installation, integration and training areas. Where feasible, differing types of advantageous contract vehicles will be used to provide flexibility, decreased contract administrative costs, and encourage acquisition streamlining through the use of COTS products.

E. Performance Metrics

ADNS - Included in the ADNS program goals are the improvements to bandwidth throughput, to connectivity to multiple Radio Frequency (RF) paths, greater security, and system capability delivered within a smaller form factor. The ADNS program will, at a minimum, provide bandwidth throughput enhancements resulting in an increase from 2 megabytes per
second (Mbps) to 25 Mbps. ADNS will also provide the ability to transport data across multiple paths simultaneously vice the current limitations of single or secondary paths. ADNS will reduce the rack unit (U) requirement from 81U to 54U and investigate the ability to reduce this Unit allocation for smaller Navy platforms. ADNS will provide greater security posture by encrypting each enclave, and securing the core via cipher text.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	PE 0303138N: Consolidated Afloat Network Ent Services(CANES)	0725: Communication Automation

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering-ADNS	WR	SSC:PAC/LANT	-	-		0.463	Nov 2012	-		0.463	0.000	0.463	
Integration and Test-ADNS	WR	SSC:PAC/LANT	-	-		0.461	Dec 2012	-		0.461	0.000	0.461	
Subtotal			-	-		0.924		-		0.924	0.000	0.924	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation-ADNS	WR	COMOPTEVFOR:Norfolk, VA	-	-		0.154	Nov 2012	-		0.154	0.000	0.154	
Subtotal			-	-		0.154		-		0.154	0.000	0.154	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	TBD:TBD	-	-		0.256	Oct 2012	-		0.256	0.000	0.256	
Subtotal			-	-		0.256		-		0.256	0.000	0.256	

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		1.334		-		1.334	0.000	1.334	

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		**DATE:** February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*	**PROJECT** 0725: *Communication Automation*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0303138N: Consolidated Afloat Network Ent Services(CANES)	PROJECT 0725: Communication Automation

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0725				
ADNS: INCREMENT III_Interface Design Development with SATCOM and Radio Frequency (RF) paths	1	2011	4	2017
ADNS: INCREMENT III_Fielding and Sustainment Inc III Surface	1	2012	4	2017
ADNS: Increment III_Subs Operational Testing (OT)	4	2012	1	2013
ADNS: INCREMENT III_Subs Fielding Decision	1	2013	1	2013
ADNS: INCREMENT III_Subs Fielding and Sustainment	1	2013	4	2017
ADNS: INCREMENT II_Full Operational Capability	1	2013	1	2013
ADNS: INCREMENT IIa_Fielding and Sustainment (Inc II/IIa/IIb) Airborne	1	2011	1	2013
ADNS: INCREMENT III_Interface Design Development with Network Applications	4	2012	1	2013

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy										DATE: February 2012	

APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*					PROJECT 9999: *Congressional Adds*		

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9999: *Congressional Adds*	-	12.000	-	-	-	-	-	-	-	0.000	12.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Important to note that activities occurring in Project 9C87 are the same as Project 9999. Funds in Project 9999 are from a Navy request to Congress to transfer funding from CANES PE 0303138N LI 2915 to PE 0303138N Project 9C87 to fund Engineering and Manufacturing Development (EMD) efforts that shifted to FY12. In addition, the RDT&E will fund Operational Assessment efforts.

A. Mission Description and Budget Item Justification

Consolidated Afloat Networks & Enterprise Services (CANES) is a Department of Navy (DoN) Efficiency Initiative and is the Navy's only Program of Record (POR) to replace existing afloat networks and provide the necessary infrastructure for applications, systems, and services to operate in the tactical domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, including Integrated Shipboard Network Systems (ISNS), Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M), Sensitive Compartmented Information (SCI) Networks, and Submarine Local Area Network (SubLAN). These legacy afloat network designs are End of Life starting in FY 2012 and CANES will replace these existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) computing and storage capabilities will reside. CANES will provide complete infrastructure, inclusive of hardware, software, processing, storage and end user devices for Unclassified, Coalition, Secret and SCI for all basic network services (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and Aircraft. In addition, approximately 36 hosted applications and systems inclusive of Command and Control, Intelligence, Surveillance and Reconnaissance, Information Operations, Logistics and Business domains require the CANES infrastructure to operate in the tactical environment. Integrating these applications and systems is accomplished through Application Integration (AI), the engineering process used to evaluate and validate compatibility between the CANES IaaS / PaaS and the Navy-validated applications, systems and services that will utilize the CANES infrastructure and services. Specific programs, such as Distributed Common Ground System - Navy (DCGS-N), Global Command and Control System - Maritime (GCCS-M), Naval Tactical Command Support System (NTCSS), and Undersea Warfare Decision Support System (USW-DSS), are dependent on the CANES Common Computing Environment (CCE) to field, host, and sustain their capability because they no longer provide their own hardware. CANES requires that ADNS field prior to or concurrently with CANES due to architectural reliance between the two programs.

CANES will field on a rolling four year hardware baseline and a two year software baseline. CANES is based on the overarching concept of reducing the number of afloat networks and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting, and test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics, and training efforts into a unified support structure.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*	PROJECT 9999: *Congressional Adds*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012
Congressional Add: CANES (Cong)	-	12.000
FY 2012 Plans: Complete development of statutory and regulatory acquisition documentation to achieve CANES MS C. Revise Cost Analysis Requirement Description (CARD) and life Cycle Cost Estimate (LCCE) in support of Navy's Service Cost Position (SCP) for MS C. Conduct OA in support of MS C. Preparation begins for Initial Operational Test and Evaluation (IOT&E) on Unit level platforms to complete operational testing. Continue hosted system integration testing and Application Integration (AI) as they migrate to CANES baseline. Prepare Enterprise Engineering and Certification (E2C) lab for testing on platform set 1 and 2 baselines. Commence Source Selection activities associated with Full Deployment contract and development of platform set 3 and 4 baselines. Achieve MS C. Systems engineering efforts following down select to complete functional baselines, updates and corrections to technical data packages.		
Congressional Adds Subtotals	-	12.000

C. Other Program Funding Summary ($ in Millions)

  N/A

D. Acquisition Strategy

  CANES was identified as an ACAT IAM MAIS. Formal program initiation occurred at MS B (2QFY11). The program office is employing a multiple-phase, multiple-award down-select contract strategy to reduce program risks and maintain competition in both design development and production during contract performance. Two competitive contracts have been awarded to design, develop, and deliver all hardware and the associated operating system, virtualization and other commercial software needed to deliver a functional network. As the program accomplishes Engineering and Manufacturing Development (EMD), a down-select will be conducted to choose the best design for Limited Deployment (LD). At the completion of LD, a separate full and open contract will be awarded for Full Deployment (FD).

E. Performance Metrics

  Early RDT&E investment and sustainment of dual design contractors through the development phase will save 10-30% of Total Ownership Cost (TOC) over the life cycle of the program. Cost avoidance throughout the life of the program is based on performance gains that are measured (not quantified) by 1) reducing the number of networks through the use of mature, certified, cross domain technologies; 2) reducing the infrastructure footprint and associated costs for hardware afloat; and 3) providing increased capability to meet current and projected warfighter requirements.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012		

APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0303138N: Consolidated Afloat Network Ent Services(CANES)				PROJECT 9C87: CANES Integration		

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9C87: CANES Integration	42.417	12.855	15.415	-	15.415	14.847	13.994	13.116	13.329	284.653	410.626
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

CANES is a Department of the Navy (DoN) efficiency initiative. CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ends in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.

A. Mission Description and Budget Item Justification

Consolidated Afloat Networks & Enterprise Services (CANES) is a Department of Navy (DoN) Efficiency Initiative and is the Navy's only Program of Record (POR) to replace existing afloat networks and provide the necessary infrastructure for applications, systems, and services to operate in the tactical domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, including Integrated Shipboard Network Systems (ISNS), Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M), Sensitive Compartmented Information (SCI) Networks, and Submarine Local Area Network (SubLAN). These legacy afloat network designs are End of Life starting in FY 2012 and CANES will replace these existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) computing and storage capabilities will reside. CANES will provide complete infrastructure, inclusive of hardware, software, processing, storage and end user devices for Unclassified, Coalition, Secret and SCI for all basic network services (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and Aircraft. In addition, approximately 36 hosted applications and systems inclusive of Command and Control, Intelligence, Surveillance and Reconnaissance, Information Operations, Logistics and Business domains require the CANES infrastructure to operate in the tactical environment. Integrating these applications and systems is accomplished through Application Integration (AI), the engineering process used to evaluate and validate compatibility between the CANES IaaS / PaaS and the Navy-validated applications, systems and services that will utilize the CANES infrastructure and services. Specific programs, such as Distributed Common Ground System - Navy (DCGS-N), Global Command and Control System - Maritime (GCCS-M), Naval Tactical Command Support System (NTCSS), and Undersea Warfare Decision Support System (USW-DSS), are dependent on the CANES Common Computing Environment (CCE) to field, host, and sustain their capability because they no longer provide their own hardware. CANES requires that ADNS field prior to or concurrently with CANES due to architectural reliance between the two programs.

CANES will field on a rolling four year hardware baseline and a two year software baseline. CANES is based on the overarching concept of reducing the number of afloat networks and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting, and test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics, and training efforts into a unified support structure.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*	PROJECT 9C87: *CANES Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: CANES Integration	42.417	12.855	15.415
Articles:	0	0	0
FY 2011 Accomplishments: Continued development of CANES statutory and regulatory acquisition documentation to achieve Milestone (MS) C. Continued revision of CARD and LCCE to support MS C. Conducted Developmental Testing (DT) and prepared for Operational Assessment (OA) event in support of MS C. Continued Engineering and Manufacturing Development (EMD) contract development of platform set 1 and 2 baseline. Developed Request for Proposal for Full Deployment contract and associated source selection activities. Achieved Milesone (MS) B.			
FY 2012 Plans: Complete development of statutory and regulatory acquisition documentation to achieve CANES MS C. Revise CARD and LCCE in support of Navy's Service Cost Position (SCP) for MS C. Conduct OA in support of MS C. Preparation begins for Initial Operational Test and Evaluation (IOT&E) on Unit level platforms to complete operational testing. Continue hosted system integration testing and Application Integration (AI) as they migrate to CANES baseline. Prepare Enterprise Engineering and Certification (E2C) lab for testing on platform set 1 and 2 baselines. Commence Source Selection activities associated with Full Deployment contract and development of platform set 3 and 4 baselines. Achieve MS C.			
FY 2013 Plans: Continue platform set 3 and 4 baseline development. Perform DT and IOT&E in support of Full Deployment Decision (FDD) in 4QFY13 on unit level platform. Continue testing events at E2C lab on platform sets 1, 2, 3, 4. Begin DT on force level baseline in support of Follow-On Test and Evaluation (FOT&E) planned to occur in FY 2014. Continue hosted system integration testing and AI.			
Accomplishments/Planned Programs Subtotals	42.417	12.855	15.415

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN/2915: *CANES*	10.208	96.088	283.628	0.000	283.628	314.812	291.514	351.225	342.807	4,893.728	6,585.187
• OPN/2925: *CANES Intell*	3.123	72.313	79.427	0.000	79.427	60.666	69.830	56.274	60.338	1,045.823	1,447.794
• RDTE/0303238N: *CANES MIP*	9.334	6.602	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.936
• RDTE/0303138N: *CANES (Cong)*	0.000	12.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.000

Exhibit R-2A, **RDT&E Project Justification:** PB 2013 Navy		**DATE:** February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*	**PROJECT** 9C87: *CANES Integration*

D. Acquisition Strategy

CANES was identified as an ACAT IAM MAIS. Formal program initiation occurred at MS B (2QFY11). The program office is employing a multiple-phase, multiple-award down-select contract strategy to reduce program risks and maintain competition in both design development and production during contract performance. Two competitive contracts have been awarded to design, develop, and deliver all hardware and the associated operating system, virtualization and other commercial software needed to deliver a functional network. As the program accomplishes Engineering and Manufacturing Development (EMD), a down-select will be conducted to choose the best design for Limited Deployment (LD). At the completion of LD, a separate full and open contract will be awarded for Full Deployment (FD).

E. Performance Metrics

Early RDT&E investment and sustainment of dual design contractors through the development phase will save 10-30% of Total Ownership Cost (TOC) over the life cycle of the program. Cost avoidance throughout the life of the program is based on performance gains that are measured (not quantified) by 1) reducing the number of networks through the use of mature, certified, cross domain technologies; 2) reducing the infrastructure footprint and associated costs for hardware afloat; and 3) providing increased capability to meet current and projected warfighter requirements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0303138N: Consolidated Afloat Network Ent Services(CANES)	PROJECT 9C87: CANES Integration

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development	C/CPFF	Lockheed Martin:San Diego, CA	20.962	1.598	Nov 2011	-		-		-	0.000	22.560	22.560
Primary Hardware Development	C/CPFF	Northrop Grumman:Reston, VA	23.644	1.259	Nov 2011	-		-		-	0.000	24.903	24.903
Primary Hardware Development	WR	SPAWAR Systems Center:San Diego, CA	16.171	2.854	Dec 2011	2.887	Nov 2012	-		2.887	61.377	83.289	83.289
Primary Hardware Development	C/FFP	UNKNOWN:UNKNOWN	-	1.086	Feb 2012	7.428	Dec 2012	-		7.428	157.921	166.435	166.435
Primary Software Development	WR	SPAWAR Systems Center:San Diego, CA	-	1.576	Oct 2011	1.545	Dec 2012	-		1.545	32.847	35.968	35.968
Systems Engineering	WR	SPAWAR Systems Center:San Diego, CA and Charleston, SC	13.986	2.359	Oct 2011	1.738	Nov 2012	-		1.738	36.950	55.033	55.032
Systems Engineering	MIPR	US ARMY CECOM (MITRE):San Diego, CA	0.891	0.709	Oct 2011	0.851	Nov 2012	-		0.851	18.091	20.542	20.542
Systems Engineering	C/CPFF	BAH:San Diego, CA	-	0.690	Nov 2011	-		-		-	0.000	0.690	0.690
		Subtotal	75.654	12.131		14.449		-		14.449	307.186	409.420	409.419

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Studies & Design	MIPR	Washington HQ Services:Washington DC	0.650	-		-		-		-	0.000	0.650	0.650
		Subtotal	0.650	-		-		-		-	0.000	0.650	0.650

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy									DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*					PROJECT 9C87: *CANES Integration*		

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Test & Evaluation	MIPR	JITC:Fairfax, VA	0.233	0.410	Oct 2011	0.196	Nov 2012	-		0.196	4.167	5.006	5.007
Operational Test & Evaluation	WR	COMOPTEVFOR:Norfolk, VA and Washington, DC	0.607	0.210	Feb 2012	0.252	Nov 2012	-		0.252	5.355	6.424	6.424
		Subtotal	0.840	0.620		0.448		-		0.448	9.522	11.430	11.431

Remarks

 JITC Cost to Complete listed as Cont, due to anticipated Developmental Test Assists (DTA) planned in the FYDP.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	WR	SPAWAR Systems Center:San Diego, CA and Charleston, SC	2.742	-		-		-		-	0.000	2.742	2.742
Program Management & Acquisition Support	C/CPFF	Systems Research & Application:San Diego, CA	3.969	0.104	Oct 2011	0.518	Oct 2012	-		0.518	10.948	15.539	15.536
Financial Management Support	C/CPFF	INDUS Technology:San Diego, CA	1.167	-		-		-		-	0.000	1.167	1.167
Cost Estimation and Analyses	C/CPFF	Booz Allen Hamilton:San Diego, CA	1.420	-		-		-		-	0.000	1.420	1.420
Logistics Support	C/CPFF	TCI:San Diego, CA	1.298	-		-		-		-	0.000	1.298	1.299
		Subtotal	10.596	0.104		0.518		-		0.518	10.948	22.166	22.164

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	87.740	12.855	15.415	-	15.415	327.656	443.666	443.664

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy								DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*			**R-1 ITEM NOMENCLATURE** PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*			**PROJECT** 9C87: *CANES Integration*			
	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks

2QFY12 UNKNOWN will be defined after down-select to one contractor at the completion of the Engineering and Manufacturing Development (EMD) competitive contract. This winning prime contractor will be selected for the Limited Deployment (LD) option(s) and to continue development of additional platform set baselines.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		**DATE:** February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*	**PROJECT** 9C87: *CANES Integration*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*	PROJECT 9C87: *CANES Integration*

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9C87				
Acquisition Milestone - CANES Milestone (MS) B	2	2011	2	2011
Acquisition Milestone - CANES MS C	3	2012	3	2012
Acquisition Milestone - Initial Operational Capability (IOC)	4	2012	4	2012
Acquisition Milestone - Full Deployment Decision Review (FDD)	4	2013	4	2013
Engineering and Manufacturing Development - Critical Design Review (CDR)	4	2011	4	2011
Engineering and Manufacturing Development - Platform Set 1 & 2 (Dev 1)	1	2011	1	2012
Engineering and Manufacturing Development - Platform Set 1 & 2(Dev 2)	1	2011	1	2012
Engineering and Manufacturing Development - Platform Set 3 & 4	2	2012	1	2014
Engineering and Manufacturing Development - Technical Insertion (TI) SW Development	3	2014	2	2015
Engineering and Manufacturing Development - Technical Insertion 2 Hardware (HW)/ SW Development	2	2016	1	2017
Developmental Test	1	2011	4	2011
Operational Test - Operational Assessment (OA)	1	2012	2	2012
Developmental Test - Unit Level	1	2013	2	2013
Operational Test - Initial Operational Test & Evaluation (IOT&E)	2	2013	4	2013
Developmental Test - Force Level	4	2013	1	2014
Operational Test - FOT&E	1	2014	3	2014
Developmental Test - Sub	4	2014	4	2014
Operational Test - Sub	1	2015	3	2015
Development Test Assist - TI	3	2015	3	2015
Development Test Assist- TI2	2	2017	2	2017

Exhibit R-4A, **RDT&E Schedule Details:** PB 2013 Navy				**DATE:** February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*		**R-1 ITEM NOMENCLATURE** PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*		**PROJECT** 9C87: *CANES Integration*	

	Start		**End**	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Milestone - Limited Deployment (LD)	2	2012	4	2013
Production Milestone - Full Deployment (FD)	3	2013	4	2017
Production Milestone - Eng Support Services	1	2014	4	2017
Deliveries - Limited Deployment (LD)	3	2012	1	2014
Deliveries - Full Deployment (FD)	1	2014	4	2017